

2022 AGU Fall Meeting

NASA Earth Science Technology Office (ESTO)

ESTO-Affiliated Presentations, Posters, and Events (*all times CST*)



Monday, December 12

Session TGC11E (08:00 - 09:00, Online Only)

Science and Technology Toward Achieving Surface Topography and Vegetation Structure Measurements I Online Poster Discussion

Conveners: Andrea Donnellan and Craig Len Glennie

Poster A12K-1237 (09:00 - 12:30, Poster Hall A)

Atmospheric Retrievals of Water Vapor, Clouds and Precipitation over Convective Storms from the TEMPEST Instrument on the ISS

- Steven Reising

Poster A12K-1246 (09:00 - 12:30, Poster Hall A)

Evaluation of the HyperAngular Rainbow Polarimeter (HARP) Polarimetric Calibration Scheme in Preparation for PACE-HARP2

- Noah Christian Sienkiewicz (Vanderlei Martins)

Poster Session INV12B (09:00 - 12:30, Poster Hall A)

Innovation: The Impact of Commercialization to Achieve Science Missions with SmallSats II Poster

Conveners: Florence Tan, Charles Norton, Pamela Millar, and William Swartz

Poster IN12C-0275 (09:00 - 12:30, Poster Hall A)

Simulating A Context-aware Heterogeneous Sensor System for Monitoring Inland Waters and Ecosystems with 3D-CHESS

- Daniel Selva

Session INV13A (11:00 - 12:30, McCormick Place - N427A-D)

The Impact of Commercialization to Achieve Science Missions with SmallSats

Conveners: Florence Tan, Charles Norton, Pamela Millar, and William Swartz

Poster A15K-1376 (14:45 - 18:15, Poster Hall A)

Retrieving Cloud Droplet Size Distribution from the Hyper-Angular Rainbow Polarimeter (HARP) CubeSat

- Rachel Smith (Vanderlei Martins)

Poster A15L-1383 (14:45 - 18:15, Poster Hall A)

Development of Avalanche Photodiodes with High Operating Temperatures to Enable Short-Wavelength Infrared Remote Sensing Applications - Christopher Ball

Poster A15M-1411 (14:45 - 18:15, Poster Hall A)

Multi-resolution investigation of smoke observations from the Multi-angle Imaging SpectroRadiometer (MISR): the value added by MISR V23 AOD at a high spatial resolution - Huikyo Lee

Poster Session GC15A (14:45 - 18:15, Poster Monitor 1)

Science and Technology Toward Achieving Surface Topography and Vegetation Structure Measurements II Poster

Conveners: Andrea Donnellan and Craig Len Glennie

Poster GC15A-42: QUAKES-I Airborne Spatial and Temporal Topography and Analysis for Achieving Surface Topography and Vegetation (STV) Goals - Andrea Donnellan

Poster GC15A-44: Evaluation of Lidar Data Collected from Different Platforms and Spatial Scales for Use in the Measurement of Forest Structure - Keith Krause

Poster GC15A-50: High-resolution Topography and Orthoimagery along the Creeping Section of the San Andreas Fault, California: Structure-from-motion Results from the QUAKES Imager

- Robert Wayne Zinke

Session GC15F (14:45 - 16:15, S503ab)

Science and Technology Toward Achieving Surface Topography and Vegetation Structure Measurements III Oral

Conveners: Andrea Donnellan and Craig Len Glennie

Presentation GC15F-04: Resolving Beach And Dune Dynamics Through GNSS, InSAR And Small Unmanned Aerial Systems (sUAS) Topography Measurements - Pietro Milillo

Presentation GC15F-06 : An OSSE Framework for STV Multi-Mission Design and Performance Evaluation - Marco Lavalle

Presentation GC15F-07 : Technology Maturation for the Decadal Survey Surface Topography and Vegetation (STV) Observable: Concurrent Artificially-intelligent Spectrometry and Adaptive Lidar System (CASALS) - David Harding

Poster SY15C-0422 (14:45 - 18:15, Poster Hall A)

The role(s) of remote sensing in reducing methane emissions from the oil and gas supply chain

- Riley Duren

Presentation B15A-08 (15:55 - 16:05, S406b)

Toward Global Coral Resilience and Biodiversity Assessments Using NASA NeMO-Net and Fluid Lensing

- Ana Tarano (Ved Chirayath)

Presentation C16A-01 (16:47 - 16:58, S504d)

Mission Ready - Global Snow Water Equivalent from Space

Ana Paula Barros (Paul Siqueira)

Tuesday, December 13

Presentation A21B-02 (8:10 - 8:20, Online Only)

Airborne Multiwavelength CO2 Lidar to Measure Atmospheric CO2 Enhancements from Wildfires and to Estimate CO2 Emissions

- Jianping Mao (James Abshire)

Poster IN22C-0323 (09:00 - 12:30, Poster Hall A)

Accessing NASA Precipitation Data via a Cloud-based Analytical Framework for Precipitation Research (CAPRI)

- John Beck

Poster AE25A-1870 (14:45 - 18:15, Poster Hall A)

Modeling Methods for 3D Lightning Mapping from Space

- Jackson Remington (S. Behnke)

Poster AE25A-1871 (14:45 - 18:15, Poster Hall A)

Assessing the feasibility of a spaceborne 3D lightning observing concept - Patrick Gatlin (S. Behnke)

Wednesday, December 14

Poster IN32D-0404 (09:00 - 12:30, Poster Hall A)

SLICE: Self-Supervised Learning for Images of a Changing Earth

- Brian Wilson

Virtual Poster Discussion IN34C (13:45 - 14:45, Online Only)

Toward a Digital Twin of Sustainable Earth and Infrastructure I Online Poster Discussion

Conveners: Zhangshuan Hou and Laura Rogers

Poster G35A-0313 (14:45 - 18:15, Poster Hall A)

Characterizing Planetary Boundary Layer (PBL) using Novel Radio-Occultation Approach

- Kuo-Nung Wang (Chi Ao)

Poster Session IN35D (14:45 - 18:15, Poster Hall A)
Toward a Digital Twin of Sustainable Earth and Infrastructure II Poster
Conveners: Zhangshuan Hou and Laura Rogers

Poster IN35D-0423: A Multi-Agency Collaboration Digital Twin for Flood Prediction and Analysis - Thomas Huang

Poster IN35D-0427: Pixels for Public Health: Towards a Digital Twin for Coastal Resilience in Hampton Roads - Tom Allen

Poster IN35D-0428: Towards a Dynamic Multiscale Wildfire Digital Twin - Milton Halem

Presentation B35A-07 (16:00 - 16:12, S405b)
Update on Low Earth Orbit Results from CIRiS, a Cubesat for Land Surface Temperature and Evapotranspiration Measurements from Space
- David Osterman

Presentation H36E-02 (16:55 - 17:05, E450b)
Global snow water equivalent distribution analysis of observational needs - Eunsang Cho (Carrie Vuyovich)

Thursday, December 15

Presentation C41D-01 (08:00 - 08:10, Online Only)
Quantum Parametric Mode Sorting Lidar for Measurement of Snow Properties
- Jennifer Lee (Carl Weimer)

Presentation N41B-02 (08:20 - 08:30, Online Only)
Digital Twin Cities for Air Quality Simulation
- Hiran Hosseini (Jeanne Holm)

Poster G42C-0238 (09:00 - 12:30, Poster Hall A)
Optomechanical Accelerometers for Geodesy
- Andrea Nelson (Felipe Guzman)

Poster GC42D-0744 (09:00 - 12:30, Poster Hall A)
The HyTI CubeSat mission: high spatial and spectral thermal imaging from a 6U platform
- Robert Wright

Presentation NS42A-08 (10:16 - 10:25, S104b)
Demonstrating Spaceborne P-band Signals of Opportunity Reflectometry
- James Garrison

Town Hall TH43C (12:45 - 1:45, S102ab)
NASA Earth Science Division Town Hall
Kate Becker, Thomas Zurbuchen, Karen St. Germain, Charles Webb, Jack Kaye, Lawrence Friedl, Kevin Murphy, and Pamela Millar

Poster A45R-2116 (14:45 - 18:15, Poster Hall A)
Bridging the Gap: Frequency Combs for a Next-Generation GHG Monitoring Network
- Newton Nguyen (Kevin Cossel)

Poster A45I-1949 (14:45 - 18:15, Poster Hall A)
Measurements of formaldehyde in the Northern Colorado Front Range using open-path dual-comb spectroscopy
- Kevin Cossel

Poster A45R-2114 (14:45 - 18:15, Poster Hall A)
Characterization of Natural Gas and Agricultural Methane Emission Variability with Open-Path Dual-Comb Spectroscopy
- Griffin Mead (Kevin Cossel)

Poster GH45B-0680 (14:45 - 18:15, Poster Hall A)
Decision Support Applications for Public Health Surveillance using NASA Earth Observations
- John Beck

Presentation IN46A-03 (17:05 - 17:15, E252)
From an Analytic Collaborative Framework to an Earth System Digital Twin for Air Quality Analysis
- Thomas Huang

Friday, December 16

Presentation H52F-02 (09:18 - 09:28, E354b)
Updates from the FLUorescence for Ocean Research and Observations (FLORO) experiment to investigate multi-functional lidar measurements to identify and characterize marine debris
- Madeline Cowell

Poster A52I-1074 (09:00 - 12:30, Poster Hall A)
A study of the Effect of Dust Properties on Retrieval Accuracy Using HARP CubeSat Multi-Angular Polarimetric Observations
- Nirandi Jayasinghe (Vanderlei Martins)

Poster A52Q-1224 (09:00 - 12:30, Poster Hall A)
The Continuity Microwave Limb Sounder (C-MLS) – Capitalizing on New Technology to Continue the MLS Record of Daily Global Middle Atmosphere Composition Observations
- Nathaniel Livesey

Poster GC52A-04 (09:00 - 12:30, Poster Monitor 1)
Precision open-path remote sensing of water isotopologues using mid-infrared dual-comb spectroscopy
- Daniel Herman (Kevin Cossel)

Poster GC52F-0233 (09:00 - 12:30, Poster Hall A)
Application of Topological Data Analysis to Detect Extreme Cold and Heat Waves
- Matthew Dixon

Presentation A53B-02 (11:20 - 11:30, E351)
An interactive web interface to compare the Localized Constructed Analogs 2 (LOCA2) with its precursor and CMIP6
- Huikyo Lee

Presentation A52D-04 (09:40 - 09:50, E350)
Polar Stereo Cloud Motion Winds using MODIS and SLSTR
- James Carr

Presentation A53C-07 (12:00 - 12:10, E350)
Aircraft Deployment of LWIR Polarimeter for Clouds Observations
- Jaclyn John (Dong Wu)

Presentation NH55B-03 (15:10 - 15:20, E253cd)
The impact of climate change on fire danger over the contiguous United States
- Maria Klariza Madrazo (Huikyo Lee)

Presentation A55B-01 (14:45 - 15:00, E271ab)
The use of atmospheric inversion on Multi Angle polarization data from Ground, Aircraft and Satellite
- Vanderlei Martins

Presentation A56G-06 (15:42-15:52, E253ab)
Increasing spatiotemporal proximity of heat and precipitation extremes in a warming world quantified by a large model ensemble
- Colin Raymond (Huikyo Lee)

Presentation A56A-04 (17:20 - 17:30, E271ab)
Retrieving water vapor profiles and clouds in microwave and infrared/visible spectrum
- Chia-Pang Kuo (Steven Reising)

Presentation G56A-07 (17:45 - 17:55, S105b)
Science returns from a spaceborne quantum gravity gradiometer in either hybrid or standalone configuration - Results from a joint NASA/DLR study
- Srinivas Bettadpur